

ance to the aperture; the parietal denticle is large and massive, very long, pointed at the upper lip denticle and extending downward to meet the reflected lip near the umbilicus. Sculpture and umbilical region as in typical *tridentata*.

Height 7.7; greater diam. 15.5; lesser diam. 13.6 mm.
Holotype.

Height 7.5; greater diam. 15.5; lesser diam. 13.0 mm.
Paratype.

Height 7.0; greater diam. 14.5; lesser diam. 12.2 mm.
Paratype.

Height 7.0; greater diam. 14.0; lesser diam. 12.0 mm.
Paratype.

Type locality: South end Fountain Bluff, Jackson Co., Illinois. Holotype, Z34983, paratype Z34982, Museum of Natural History, University of Illinois; paratypes, Acad. Nat. Sci. Phil., No. 161146.

This form of *tridentata* is related to both the *juxtidentis* of the eastern states and the *discoidea* of the Ohio River. It is flatter, the sculpture is not as coarse, the umbilicus is wider and the lip denticles are differently placed in comparison with *juxtidentis*, which it greatly resembles in the position of the parietal denticle. It is most nearly related to *discoidea*, but has a narrower umbilicus besides being much smaller. It replaces *discoidea* in the Ohio valley in Illinois and extends up the Mississippi Valley as far north as Randolph County. *P. t. discoidea* occurs at Mt. Vernon, Posey Co., Indiana, but none have been seen from Illinois. Specimens from the Ohio Valley in Illinois are larger than those from the Mississippi Valley. The variety is named for Dr. Theodore H. Frison, Chief of the Natural History Survey of Illinois.

NOTES ON THE LAND SNAIL FAMILY TORNATELLINIDAE

BY HENRY A. PILSBRY AND C. MONTAGUE COOKE, JR.

The classification of the family Tornatellinidae as understood by us in 1915¹ has been materially altered by the ex-

¹ Tornatellinidae, by H. A. P. and C. M. C., Manual of Conchology, vol. 23.

cellent work of Nils Hj. Odhner on the snails of Juan Fernandez.² The genus *Tornatellina* was based on a species of that island, the relationship of which with Polynesian and Hawaiian forms was hypothetical when we wrote. Odhner has shown that Juan Fernandez forms differ at least generically from the ordinary Pacific tornatellinid snails, and so widely from *Auriculella* that he advocates the removal of that Hawaiian genus and its allies to a separate family, Auriculellidae.

He has further shown that the genus *Fernandezia* Pils., which we had put in the Amastridae, in the absence of any anatomical information, is really closely related to *Tornatellina*, and undoubtedly a member of the Tornatellinidae.

The restriction of *Tornatellina* to the Juan Fernandez group leaves the generic allocation of the mid-Pacific species unsettled. The senior name for any Polynesian form is *Strobilus* Anton, 1839, based upon a very peculiar species of the island of Rapa. It is anatomically unknown, but as nothing much like it has been found elsewhere we consider it best to let *Strobilus* stand as a monotypic genus. The first valid name based on a tornatellinid of the ordinary Pacific type is LAMELLIDEA Pils., 1910, type "*Pupa*" *peponum* Gld. This covers forms not generically distinguishable, conchologically, from *Pacificella variabilis* Odhner, of Easter Island. Indeed, we consider this species an introduction in Easter Island, doubtless brought by the Polynesians, as we have found shells completely identical with those of Easter Island in several Polynesian localities.³ The

² The Natural History of Juan Fernandez and Easter Island, 3, Zoology, 1922.

³ The synonymy of *Lamellidea variabilis* (Odhner) is as follows.

Pacificella variabilis Odhner, 1922, Nat. Hist. Juan Fernandez and Easter Island, vol. 3, pt. 2, p. 249, pl. 8, figs. 15-17.

Tornatellina impressa normalis Pils. and Cooke, in part, specimens from Palmyra Island only, Man. Conch., vol. 23, p. 175.

This species is somewhat widely distributed, probably carried with food plants by the Polynesians; but its original habitat was doubtless in Polynesia proper, not in such outlying islands as Palmyra or Easter. We possessed this form when preparing our monograph, but at that time confused it with *T. impressa normalis*, which subsequent study with a series of all ages has shown to be a form of *T. pusilla* (Gld.), and belonging to *Lamellidea proper*, while *variabilis* from Easter and Palmyra belongs to the section *Tornatellinops*.

genus *Lamellidea* will include species No. 2 to 46 described in our monograph of 1915, pp. 140 to 186.

A provisional but very probable addition to the Tornatellinidae is the genus *PITYS* Moersch,⁴ containing the single species *P. pagodiformis* (E. A. Sm.) of the island of Rapa. This has been associated by all former authors with the Endodontidae; but on going over Rapa shells in the British Museum last year one of us (C.M.C.) noticed that the apertural armature is tornatellinid in character. Specimens in the collection of the Academy in Philadelphia which we studied together confirm this observation, and we can add that no endodontid snail at all resembles it. Pending an examination of the anatomy we do not hesitate to place *Pitys* in the Tornatellinidae.

The solution of another enigma of the Pacific was found in the course of investigation of Polynesian snails at the British Museum. The genus *Tornatelloides* with the species *achatinoides* (Pfr.) was said on Cuming's authority to be from the Gambier Islands. There are three specimens, in the Museum, presumably the types, as the original label reads "*Strobilus achatinoides*. Gambier I. M.[useum] C.[uming]." They had been relabelled "*Ferussacia eremiophila* Bgt., loc.?" (probably by E. A. Smith). There can hardly be any question that these are the types, as Pfeiffer stated that his description was based on specimens in the Cuming collection. *Tornatelloides* will therefore become a synonym of *Ferussacia*, its type being very close to, or identical with, the Algerian *F. eremiophila* Bgt. Pilsbry's surmise is thus verified (Man. Conch. 23:191).

In the Marquesas Islands at elevations of 2,500 feet up, tornatellinid snails which appear to form a new subgenus were collected by Mr. A. M. Adamson and Dr. E. P. Mumford of the Pacific Entomological Survey.

⁴ The synonymy of *Pitys* is as follows.

Pitys "Bk." Moersch, 1852, Catal. Conchyl. Yoldi, 1, p. 6, for *Helix bilamellata* Pfr., not Sowerby = *pagodiformis* E. A. Smith. (? *Pitys* Beck, 1837, Index Moll. p. 9, for *P. oparana*; both nude names.)

Diaglyptus Pils., Man. Conch., vol. 8, p. 86; not *Diaglypta* Foerst.
Diglyptus Pils., ibid., vol. 9, p. 22, new name for *Diaglyptus*.

Atea, new subgenus of *Lamellidea*. Shell slender, turrit, of numerous (7 to 9) slowly increasing whorls, the apertural armature as in *Tornatellinops*. Type *L. adamsoni*.

Lamellidea adamsoni, n. sp. The shell is slender, pale brown, somewhat transparent, glossy, of 9 convex whorls, the apex acute; smooth, with some irregularly spaced growth marks. Aperture narrowly oblong, the parietal lamella large, columella thickened, sinuous, bearing a small, somewhat receding, steeply oblique lamella; outer lip thin. Length 7.2, diam. 2.4 mm. Hakahetau, Uapou. Cotypes 108448 Bishop Mus. and 161691 A.N.S.P.

Lamellidea mumfordi, n. sp. Similar but smaller, of $7\frac{1}{2}$ less convex whorls, the apex rather obtuse, striation more developed, especially below the suture. Aperture wider. Length 5.2, diam. 1.9 mm.; length 4.7, diam. 1.75 mm. Ponaohumu, Hivaoa. Cotypes 94877 B.M. and 161692 A.N.S.P.

Lamellidea uahukana, n. sp. Shell more slender, of 7 to $7\frac{1}{2}$ moderately convex whorls, which are finely *costulate* below the suture. Apex somewhat obtuse. Length 4.5, diam. 1.45 mm.; length 4.4 mm, diam. 1.4 mm. Hane, Uahuka. Cotypes 161693 A.N.S.P. and 104972 B.M.

These species will be figured in a supplement to the monograph of Tornatellinidae now in preparation.

THREE PREOCCUPIED NAMES IN THE PECTINIDAE

BY LEO GEORGE HERTLEIN

1. PECTEN WALUENSIS, new name for *P. thomasi* Mansfield, not Sowerby.

A pecten from the late Miocene or early Pliocene of the Fiji Islands was described as *Pecten thomasi* by Mansfield (Papers Dept. Marine Biol. Carnegie Inst. Washington, Vol. 23, Publ. No. 344, 1926, p. 90, pl. 5, figs. 1a and 1b. "Type locality, Walu Bay, Fiji Islands." Near Suva, Viti Levu, Fiji Islands.).

There is an earlier *Pecten thomasi* described by G. B. Sowerby (Proc. Malacol. Soc. London, Vol. 2, No. 4, 1897, p. 138, pl. 11, fig. 2. The type locality was unknown. The species it was stated, resembles *P. natans* Philippi.). According to Melvill and Sykes (Proc. Malacol. Soc. London,